

WG14 N2157

Meeting notes

C Floating Point Study Group Teleconference

2017-05-23

9 AM PDT / 12 PM EDT

Attendees: Rajan, Jim, Mike, Ian, David C., David H.

New agenda items:

Teleconference number backup.

Last meeting action items:

Rajan: Bring up "Understanding" points 4 and 5 when discussing DR501 (from Jim's email on 2017/03/17). - Done.

David H: Ask about the IEEE dependencies (rounding mode, infinities) for the augmented functions and how they could be used for non-IEEE formats. - Done.

Jim: Ask David Keaton what we should be doing to close off the group or extend it (IEEE-754:2018 binding for example). - Done.

New action items:

Jim: Rework http://wiki.edg.com/pub/CFP/WebHome/augop_spec-20170422.pdf to have the additions done in Annex F only.

Jim: Work http://wiki.edg.com/pub/CFP/WebHome/min-max_names.pdf into a specification for the main body of the standard. Also add a footnote saying for implementations without NaN's the functions have the same results.

All: Look into any other teleconferencing facility (Ex. Cisco Webex, Skype, etc.) to have a backup in case the main one fails.

Next Meetings:

Tuesday June 20th, 2017, 12:00 EDT, 9:00 PDT

Tuesday July 11th, 2017, 12:00 EDT, 9:00 PDT

Same teleconference number.

Discussion:

IEEE 754 revision:

Progress on min/max and augmented functions.

Augmented for non-IEEE: Depends on what the other formats handle it.

Non-issue from the 754 committee.

Result: Put in Annex F when we work on this.

A meeting will coincide with the ARITH conference (Sunday, July 23rd).

NaN encoding with reserved bits is being discussed.

Looking at a distinction between error NaNs and missing value NaNs.

Not compatible change.

Avoids the need of separate functions for each use of NaN.

Thinking of finding a way to make the two kinds compatible.

C++ liaison:

No update.

WG14 meeting:

Note sent out by Rajan in April.

C2x proposals:

See note sent by Rajan in April 6th.

DRs ([http://wiki.edg.com/pub/CFP/WebHome/Defect_reports - TS 18661-20170425_Sheet1.pdf?twiki_redirect_cache=0d161c3411487fb5082b05aa84198691](http://wiki.edg.com/pub/CFP/WebHome/Defect_reports_-_TS_18661-20170425_Sheet1.pdf?twiki_redirect_cache=0d161c3411487fb5082b05aa84198691)):

DR9: See if Blaine had the proposed changes from our paper folded into the DR.

DR11: For binary it is the number of digits after the decimal point, for decimal it is the total number of digits.

The reason is %a is based off of the %e formatting for binary, for decimal it was modeled after %g.

Was already this way in the TR.

This DR was due to the TR being underspecified.

Result: Keep it as is and push the understanding that the TR had it this way.

C DR501:

Jim: Change the definition of DECIMAL_DIG to the "widest supported floating POINT type". A floating point type fits the floating point model and does not have to be just a float, double or long double that "floating type" would mean.

A similar change could be made for float_t and double_t.

Result: Make this a proposal to let the current DR close.

We can integrate all the changes to the TS's (from these DR's) to get base documents for C2X input.

Binding for IEEE 754-2018:

augmented add and multiple operations

(http://wiki.edg.com/pub/CFP/WebHome/augop_spec-20170422.pdf):

*Jim: Reword to be redone to have everything in Annex F only.

min/max operations (http://wiki.edg.com/pub/CFP/WebHome/min-max_names.pdf):

First set uses the 754 names with some tweaks (no camel-case, num/mag abbreviations, using _'s).

Feedback was to use the first set.

*Jim: Work into specification for the main body of the standard. Add a footnote saying for implementations without NaN's the functions have the same results.

Other:

Joseph Myers 14704 email (missing underscores for HUGE_VAL*):

Will be handled editorially.

Teleconference backup:

Cisco webex? Free?

*Look into any other teleconferencing facility (Ex. Cisco Webex, Skype, etc.)
